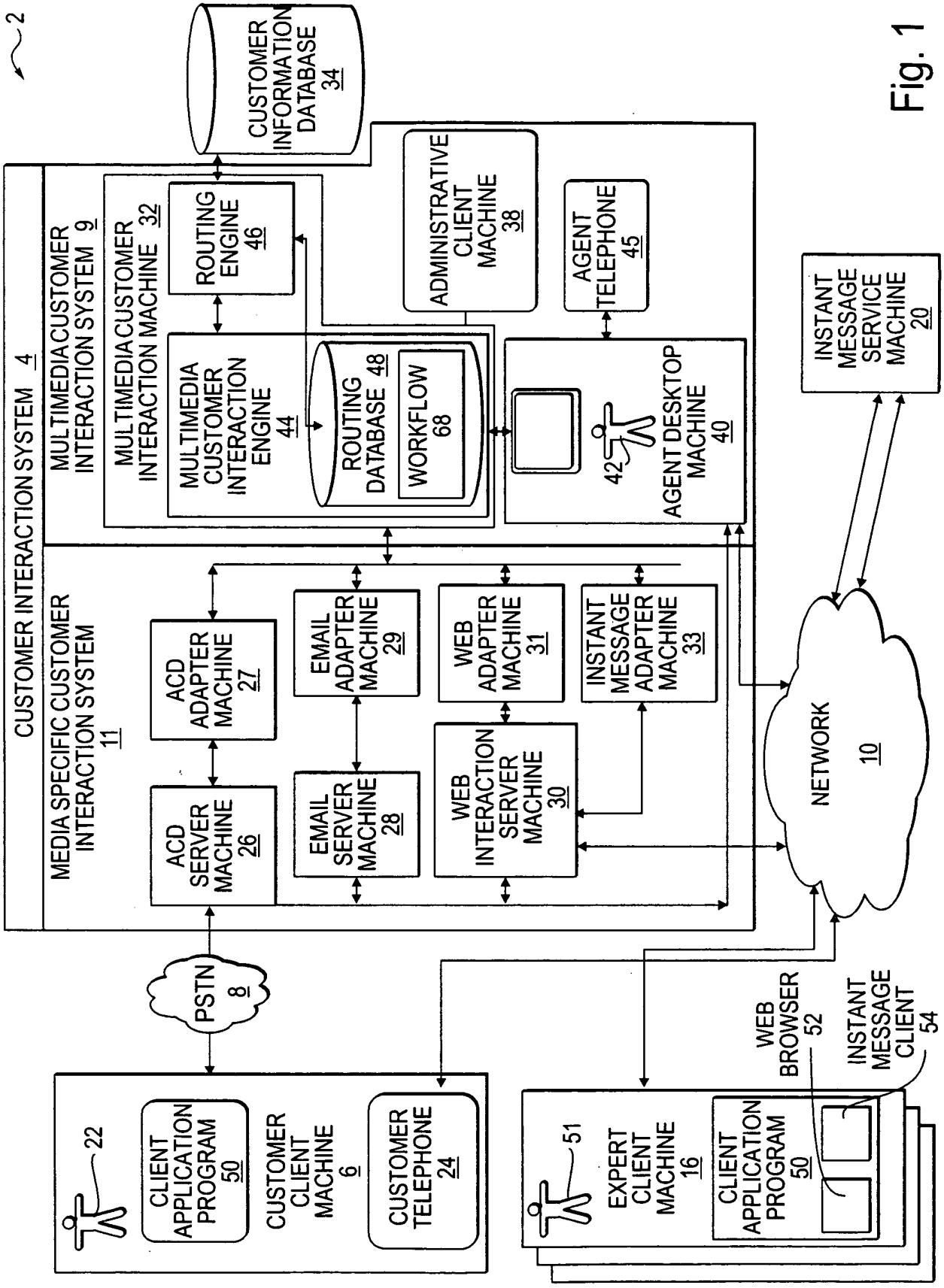

2
CUSTOMER INFORMATION DATABASE 34
CUSTOMER INTERACTION SYSTEM 4
MULTIMEDIA CUSTOMER INTERACTION SYSTEM 9
MULTIMEDIA CUSTOMER INTERACTION MACHINE 32
ROUTING ENGINE 46
MULTIMEDIA CUSTOMER INTERACTION ENGINE 44
ROUTING DATABASE 48
WORKFLOW 68
ADMINISTRATIVE CLIENT MACHINE 38
AGENT TELEPHONE 45
AGENT DESKTOP MACHINE 40
42
INSTANT MESSAGE SERVICE MACHINE 20
MEDIA SPECIFIC CUSTOMER INTERACTION SYSTEM 11
ACD ADAPTER MACHINE 27
EMAIL ADAPTER MACHINE 29
WEB ADAPTER MACHINE 31
INSTANT MESSAGE ADAPTER MACHINE 33
ACD SERVER MACHINE 26
EMAIL SERVER MACHINE 28
WEB INTERACTION SERVER MACHINE 30
NETWORK 10
PSTN 8
22
CLIENT APPLICATION PROGRAM 50
CUSTOMER CLIENT MACHINE 6
CUSTOMER TELEPHONE 24
51
EXPERT CLIENT MACHINE 16
CLIENT APPLICATION PROGRAM 50
WEB BROWSER 52
INSTANT MESSAGE CLIENT 54

Fig. 1

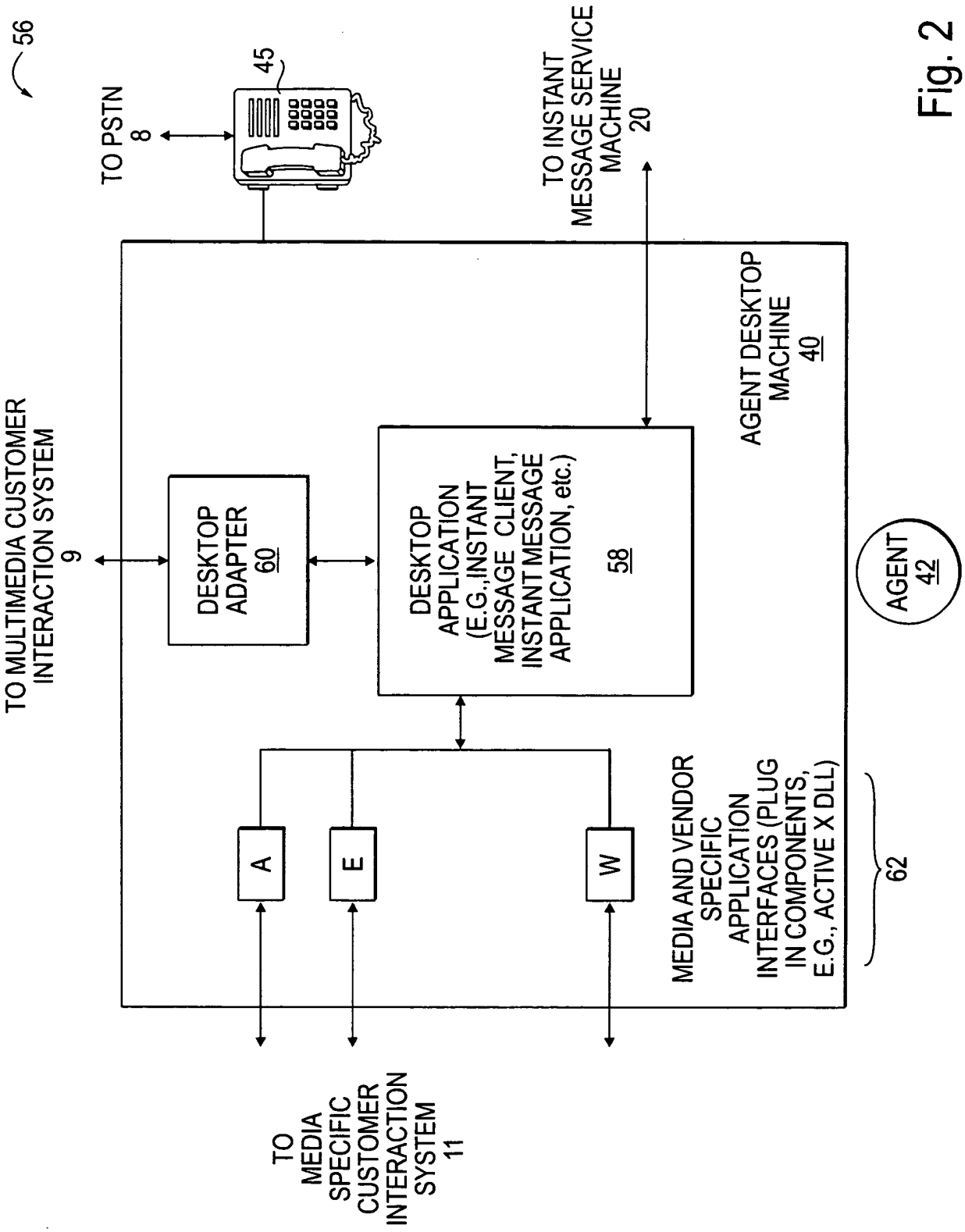

56
TO PSTN
8
45
TO INSTANT MESSAGE SERVICE MACHINE
20
AGENT DESKTOP MACHINE
40
TO MULTIMEDIA CUSTOMER INTERACTION SYSTEM
9
DESKTOP ADAPTER
60
DESKTOP APPLICATION (E.G., INSTANT MESSAGE CLIENT, INSTANT MESSAGE APPLICATION, etc.)
58
AGENT
42
A
E
W
MEDIA AND VENDOR SPECIFIC APPLICATION INTERFACES (PLUG IN COMPONENTS, E.G., ACTIVE X DLL)
62
TO MEDIA SPECIFIC CUSTOMER INTERACTION SYSTEM
11

Fig. 2

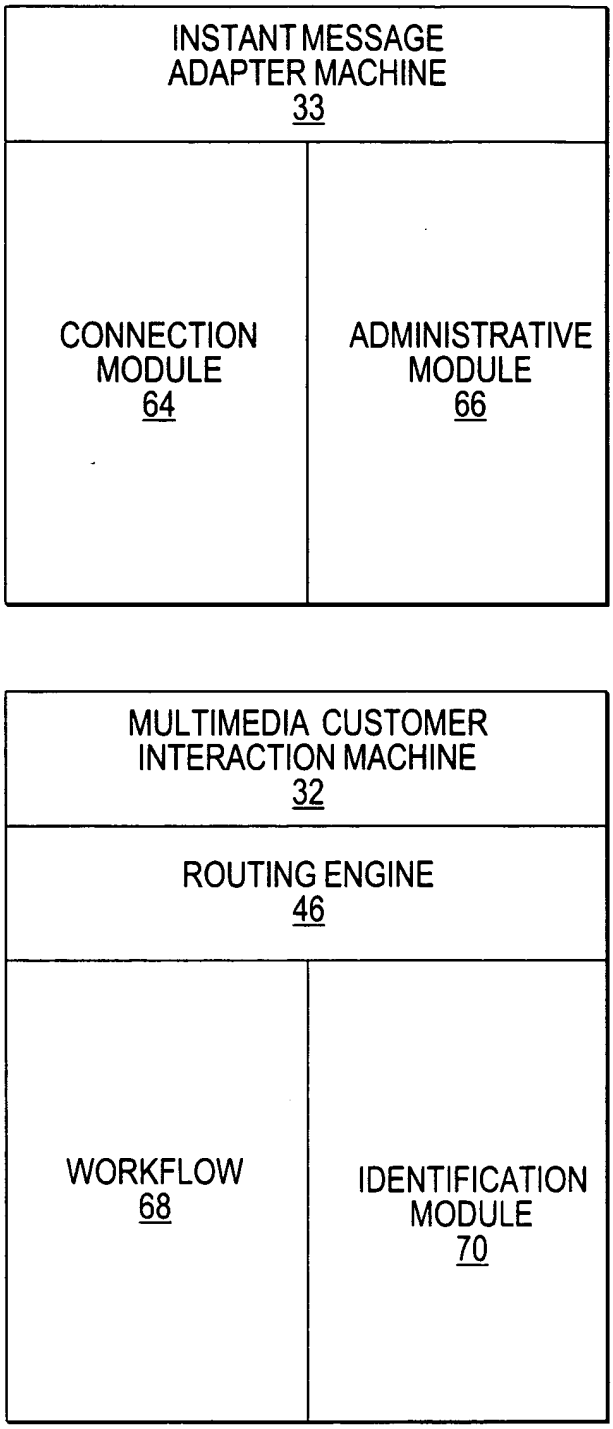

INSTANT MESSAGE ADAPTER MACHINE 33
CONNECTION MODULE 64
ADMINISTRATIVE MODULE 66
MULTIMEDIA CUSTOMER INTERACTION MACHINE 32
ROUTING ENGINE 46
WORKFLOW 68
IDENTIFICATION MODULE 70

Fig. 3

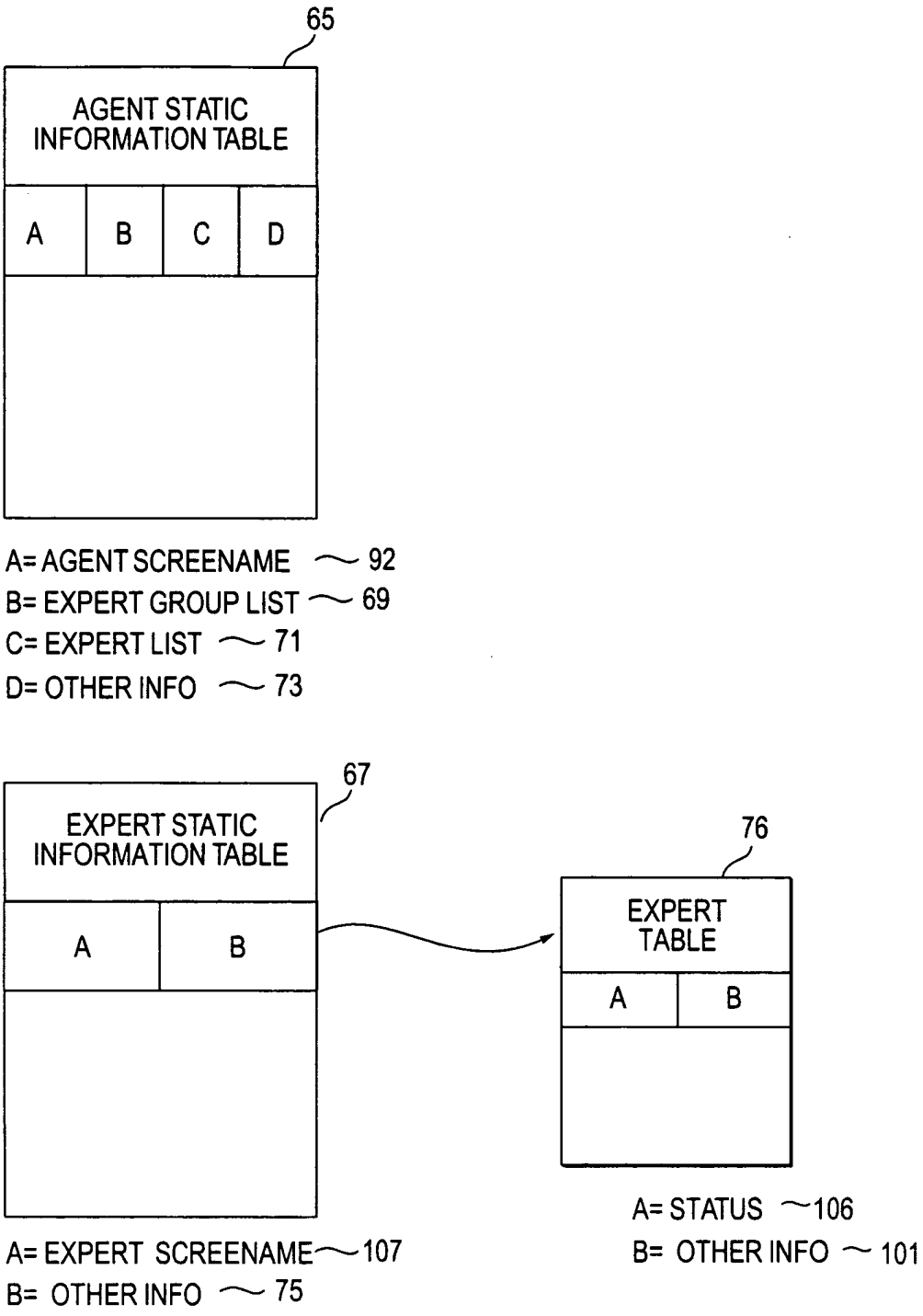


Fig. 4 { Fig. 4A | Fig. 4B }

Fig. 4A

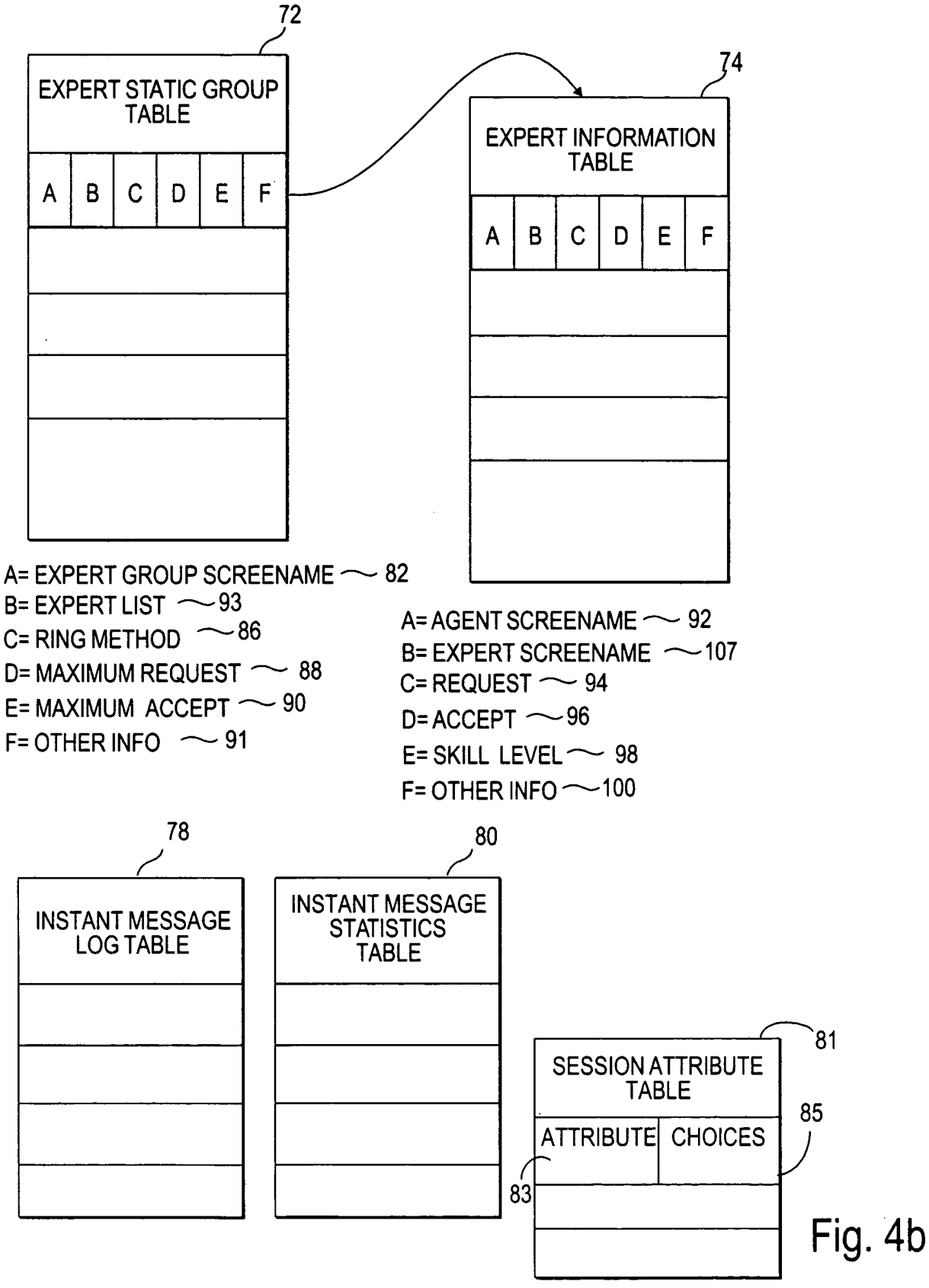
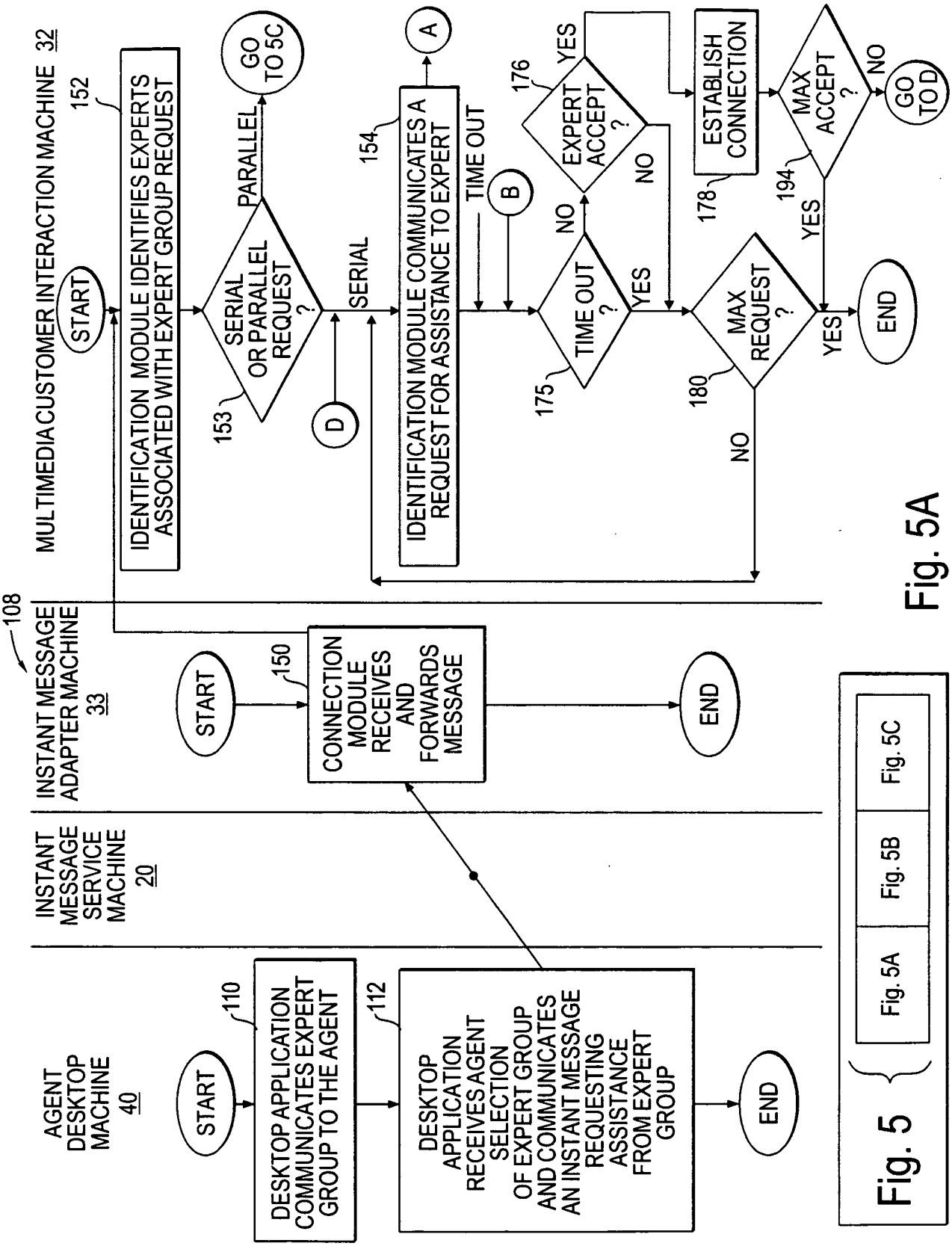

72
EXPERT STATIC GROUP TABLE
A B C D E F
74
EXPERT INFORMATION TABLE
A B C D E F
A= EXPERT GROUP SCREENAME 82
B= EXPERT LIST 93
C= RING METHOD 86
D= MAXIMUM REQUEST 88
E= MAXIMUM ACCEPT 90
F= OTHER INFO 91
A= AGENT SCREENAME 92
B= EXPERT SCREENAME 107
C= REQUEST 94
D= ACCEPT 96
E= SKILL LEVEL 98
F= OTHER INFO 100
78
INSTANT MESSAGE LOG TABLE
80
INSTANT MESSAGE STATISTICS TABLE
81
SESSION ATTRIBUTE TABLE
ATTRIBUTE CHOICES
83
85

Fig. 4b


AGENT DESKTOP MACHINE 40
INSTANT MESSAGE SERVICE MACHINE 20
INSTANT MESSAGE ADAPTER MACHINE 33
108
MULTIMEDIA CUSTOMER INTERACTION MACHINE 32
START
DESKTOP APPLICATION COMMUNICATES EXPERT GROUP TO THE AGENT
110
DESKTOP APPLICATION RECEIVES AGENT SELECTION OF EXPERT GROUP AND COMMUNICATES AN INSTANT MESSAGE REQUESTING ASSISTANCE FROM EXPERT GROUP
112
END
START
CONNECTION MODULE RECEIVES AND FORWARDS MESSAGE
150
END
START
IDENTIFICATION MODULE IDENTIFIES EXPERTS ASSOCIATED WITH EXPERT GROUP REQUEST
152
SERIAL OR PARALLEL REQUEST ?
153
PARALLEL
GO TO 5C
SERIAL
D
IDENTIFICATION MODULE COMMUNICATES A REQUEST FOR ASSISTANCE TO EXPERT
154
A
TIME OUT
B
TIME OUT ?
175
NO
YES
EXPERT ACCEPT ?
176
YES
NO
MAX REQUEST ?
180
NO
YES
ESTABLISH CONNECTION
178
MAX ACCEPT ?
194
NO
YES
GO TO D
END
Fig. 5
Fig. 5A
Fig. 5B
Fig. 5C
Fig. 5A

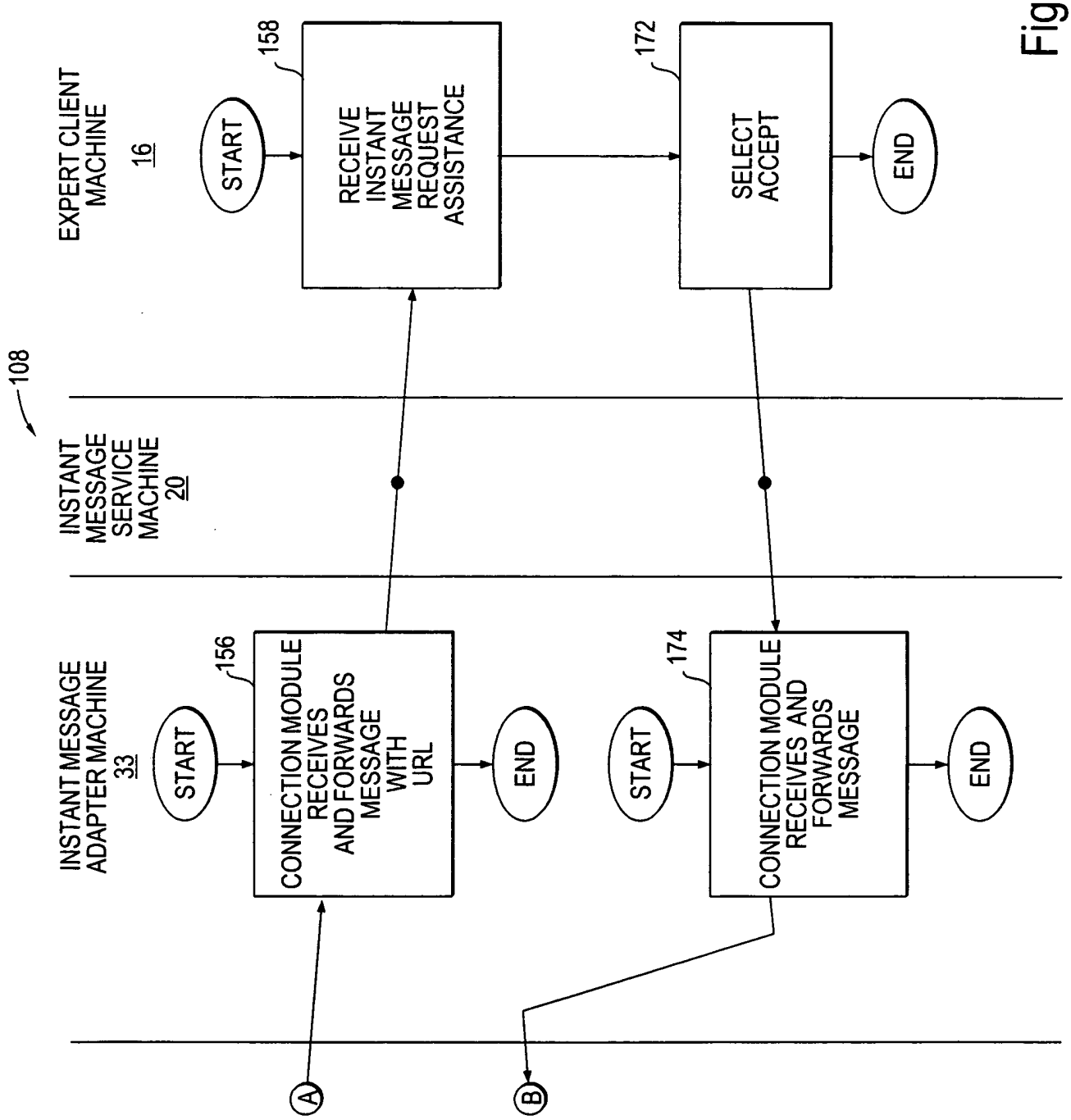

108
EXPERT CLIENT MACHINE 16
INSTANT MESSAGE SERVICE MACHINE 20
INSTANT MESSAGE ADAPTER MACHINE 33
START
158
RECEIVE INSTANT MESSAGE REQUEST ASSISTANCE
172
SELECT ACCEPT
END
156
CONNECTION MODULE RECEIVES AND FORWARDS MESSAGE WITH URL
174
CONNECTION MODULE RECEIVES AND FORWARDS MESSAGE
A
B

Fig. 5B

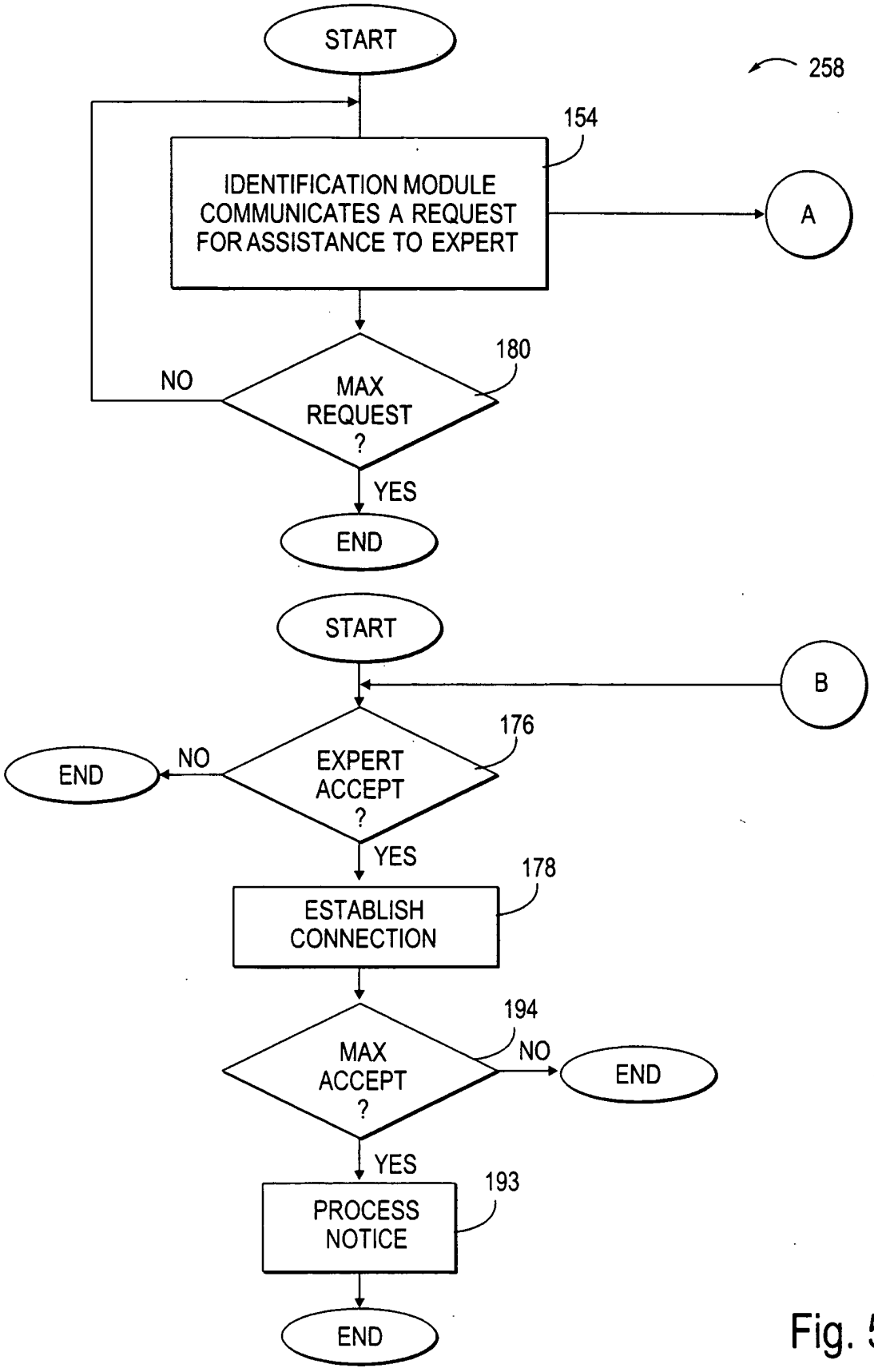

START
258
154
IDENTIFICATION MODULE COMMUNICATES A REQUEST FOR ASSISTANCE TO EXPERT
A
180
NO
MAX REQUEST ?
YES
END
START
B
176
END
NO
EXPERT ACCEPT ?
YES
178
ESTABLISH CONNECTION
194
MAX ACCEPT ?
NO
END
YES
193
PROCESS NOTICE
END

Fig. 5C

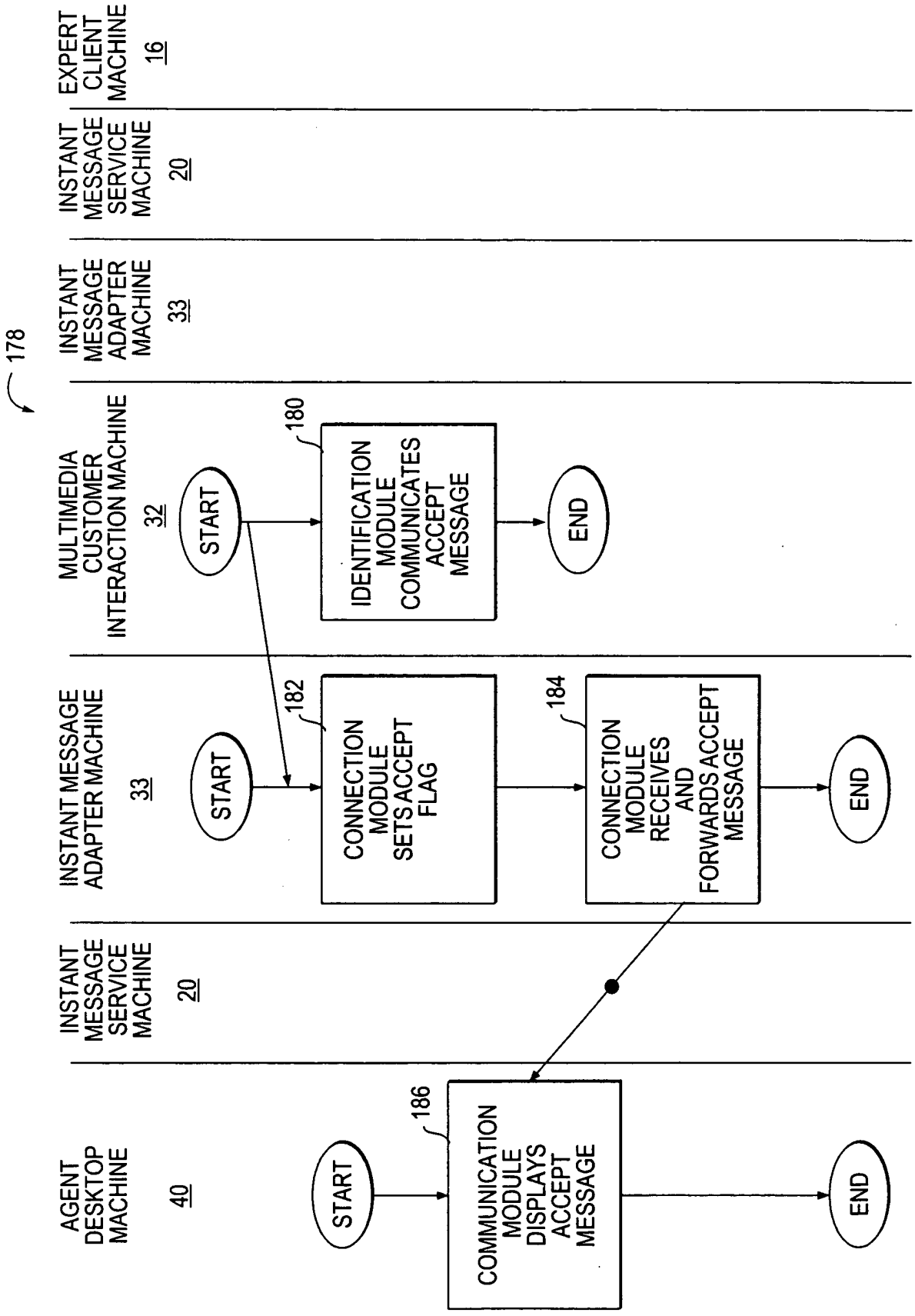

178
EXPERT CLIENT MACHINE 16
INSTANT MESSAGE SERVICE MACHINE 20
INSTANT MESSAGE ADAPTER MACHINE 33
MULTIMEDIA CUSTOMER INTERACTION MACHINE 32
START
180
IDENTIFICATION MODULE COMMUNICATES ACCEPT MESSAGE
END
INSTANT MESSAGE ADAPTER MACHINE 33
START
182
CONNECTION MODULE SETS ACCEPT FLAG
184
CONNECTION MODULE RECEIVES AND FORWARDS ACCEPT MESSAGE
END
INSTANT MESSAGE SERVICE MACHINE 20
AGENT DESKTOP MACHINE 40
START
186
COMMUNICATION MODULE DISPLAYS ACCEPT MESSAGE
END

Fig. 6

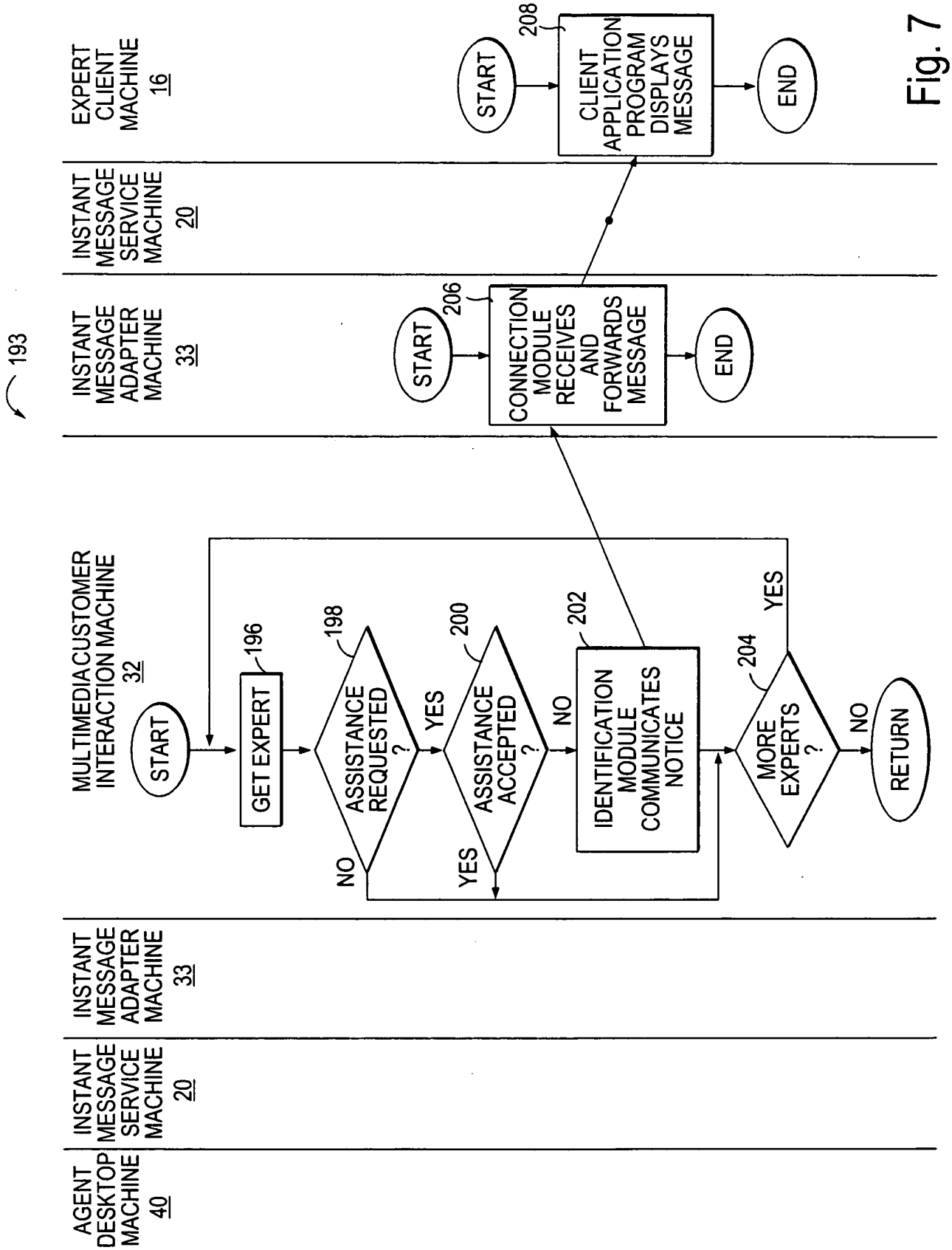

193
AGENT DESKTOP MACHINE 40
INSTANT MESSAGE SERVICE MACHINE 20
INSTANT MESSAGE ADAPTER MACHINE 33
MULTIMEDIA CUSTOMER INTERACTION MACHINE 32
INSTANT MESSAGE ADAPTER MACHINE 33
INSTANT MESSAGE SERVICE MACHINE 20
EXPERT CLIENT MACHINE 16
START
GET EXPERT
196
ASSISTANCE REQUESTED ?
198
NO
YES
ASSISTANCE ACCEPTED ?
200
YES
NO
IDENTIFICATION MODULE COMMUNICATES NOTICE
202
MORE EXPERTS ?
204
YES
NO
RETURN
START
CONNECTION MODULE RECEIVES AND FORWARDS MESSAGE
206
END
START
CLIENT APPLICATION PROGRAM DISPLAYS MESSAGE
208
END

Fig. 7

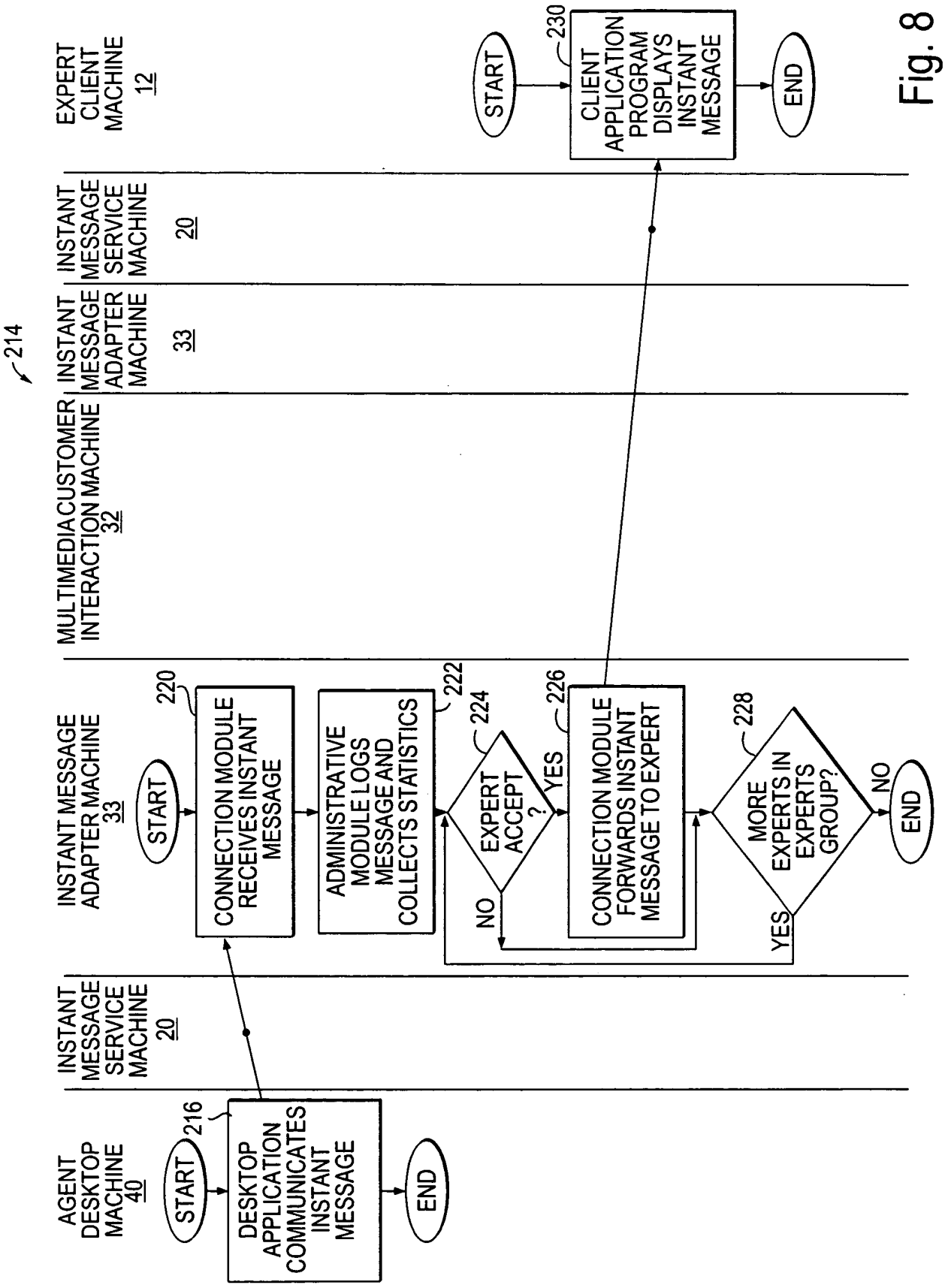

214
AGENT DESKTOP MACHINE 40
INSTANT MESSAGE SERVICE MACHINE 20
INSTANT MESSAGE ADAPTER MACHINE 33
MULTIMEDIA CUSTOMER INTERACTION MACHINE 32
INSTANT MESSAGE SERVICE MACHINE 20
EXPERT CLIENT MACHINE 12
START
216
DESKTOP APPLICATION COMMUNICATES INSTANT MESSAGE
END
START
220
CONNECTION MODULE RECEIVES INSTANT MESSAGE
ADMINISTRATIVE MODULE LOGS MESSAGE AND COLLECTS STATISTICS
222
224
EXPERT ACCEPT ?
YES
NO
226
CONNECTION MODULE FORWARDS INSTANT MESSAGE TO EXPERT
228
MORE EXPERTS IN EXPERTS GROUP?
YES
NO
END
START
230
CLIENT APPLICATION PROGRAM DISPLAYS INSTANT MESSAGE
END

Fig. 8

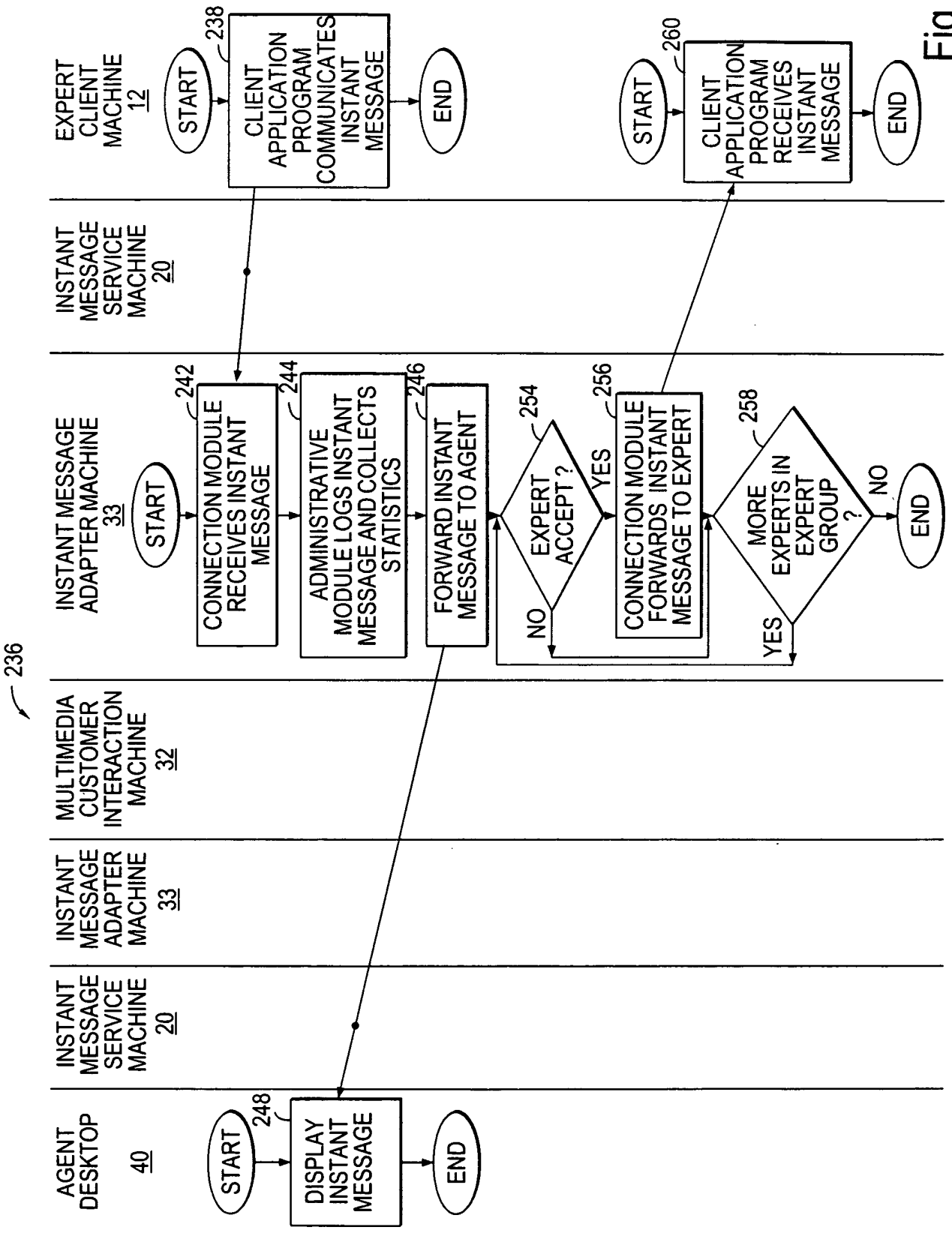

236
AGENT DESKTOP 40
INSTANT MESSAGE SERVICE MACHINE 20
INSTANT MESSAGE ADAPTER MACHINE 33
MULTIMEDIA CUSTOMER INTERACTION MACHINE 32
INSTANT MESSAGE ADAPTER MACHINE 33
INSTANT MESSAGE SERVICE MACHINE 20
EXPERT CLIENT MACHINE 12
START
DISPLAY INSTANT MESSAGE
248
END
START
CONNECTION MODULE RECEIVES INSTANT MESSAGE
242
ADMINISTRATIVE MODULE LOGS INSTANT MESSAGE AND COLLECTS STATISTICS
244
FORWARD INSTANT MESSAGE TO AGENT
246
EXPERT ACCEPT ?
254
NO
YES
CONNECTION MODULE FORWARDS INSTANT MESSAGE TO EXPERT
256
MORE EXPERTS IN EXPERT GROUP ?
258
YES
NO
END
START
CLIENT APPLICATION PROGRAM COMMUNICATES INSTANT MESSAGE
238
END
START
CLIENT APPLICATION PROGRAM RECEIVES INSTANT MESSAGE
260
END

Fig. 9

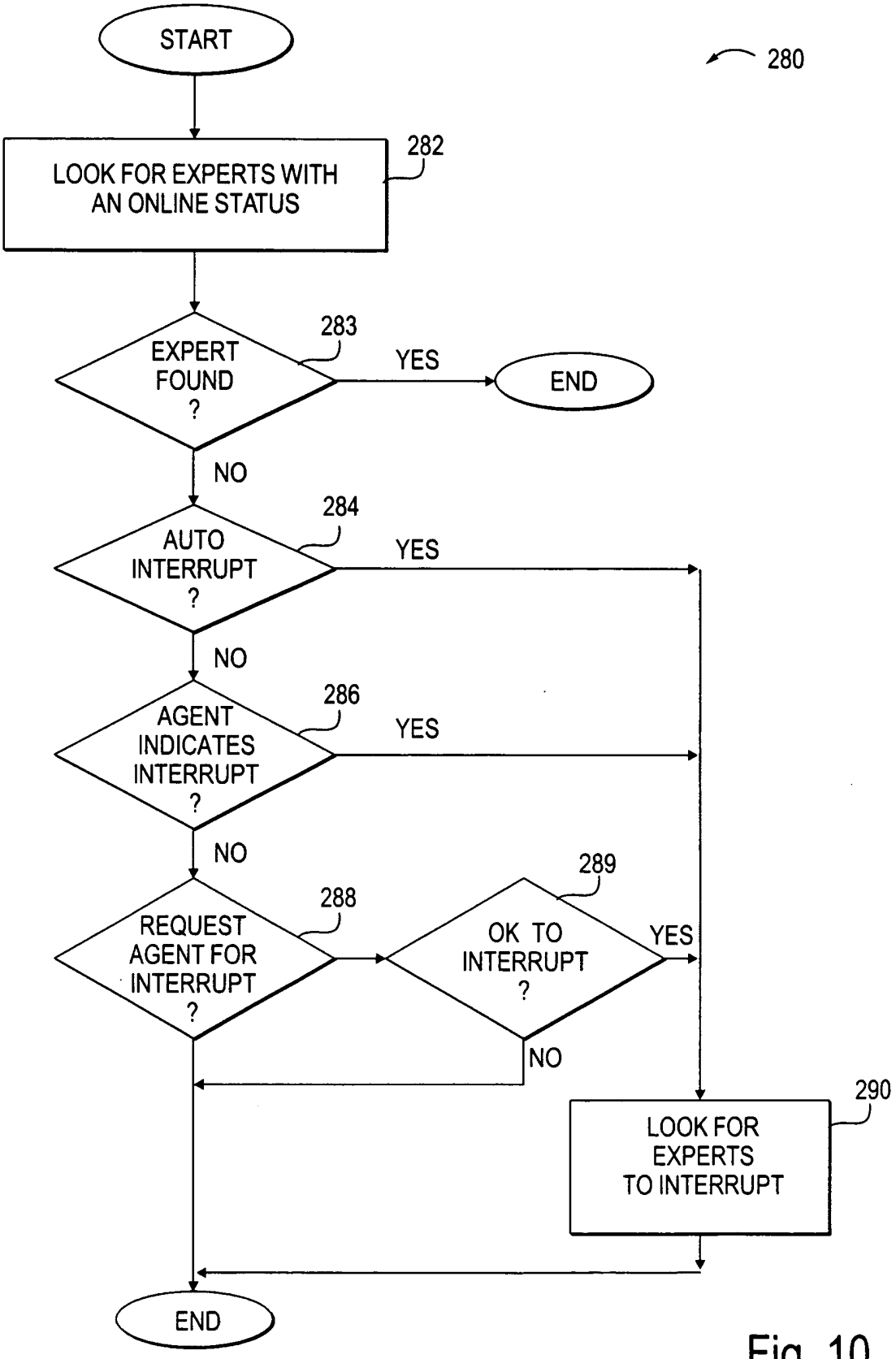

START
280
LOOK FOR EXPERTS WITH AN ONLINE STATUS
282
EXPERT FOUND ?
283
YES
END
NO
AUTO INTERRUPT ?
284
YES
NO
AGENT INDICATES INTERRUPT ?
286
YES
NO
REQUEST AGENT FOR INTERRUPT ?
288
OK TO INTERRUPT ?
289
YES
NO
LOOK FOR EXPERTS TO INTERRUPT
290
END

Fig. 10

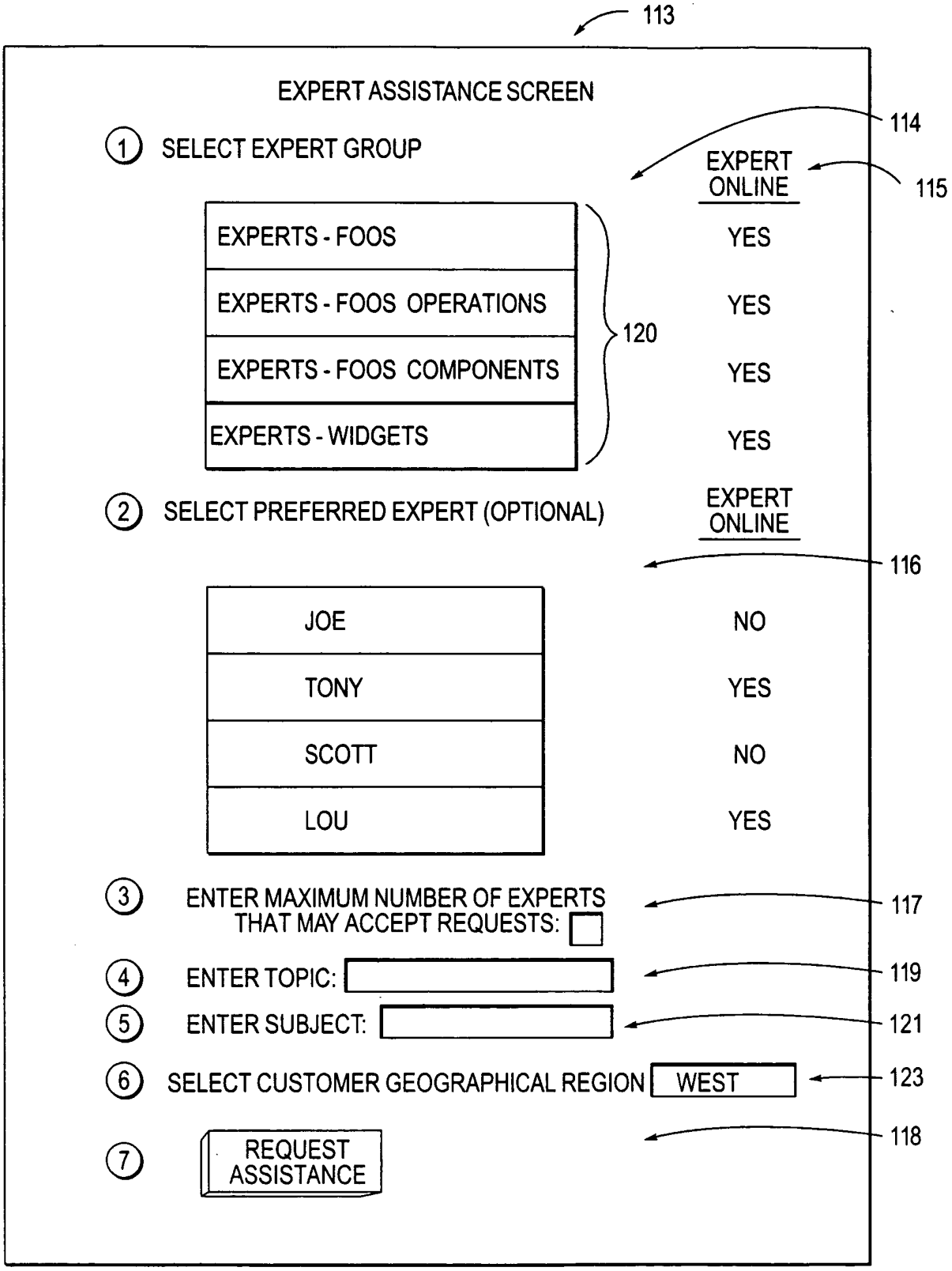

113
EXPERT ASSISTANCE SCREEN
1 SELECT EXPERT GROUP
114
EXPERT ONLINE
115
EXPERTS - FOOS
YES
EXPERTS - FOOS OPERATIONS
YES
EXPERTS - FOOS COMPONENTS
YES
EXPERTS - WIDGETS
YES
120
2 SELECT PREFERRED EXPERT (OPTIONAL)
EXPERT ONLINE
116
JOE
NO
TONY
YES
SCOTT
NO
LOU
YES
3 ENTER MAXIMUM NUMBER OF EXPERTS THAT MAY ACCEPT REQUESTS:
117
4 ENTER TOPIC:
119
5 ENTER SUBJECT:
121
6 SELECT CUSTOMER GEOGRAPHICAL REGION
WEST
123
7
REQUEST ASSISTANCE
118

Fig. 11

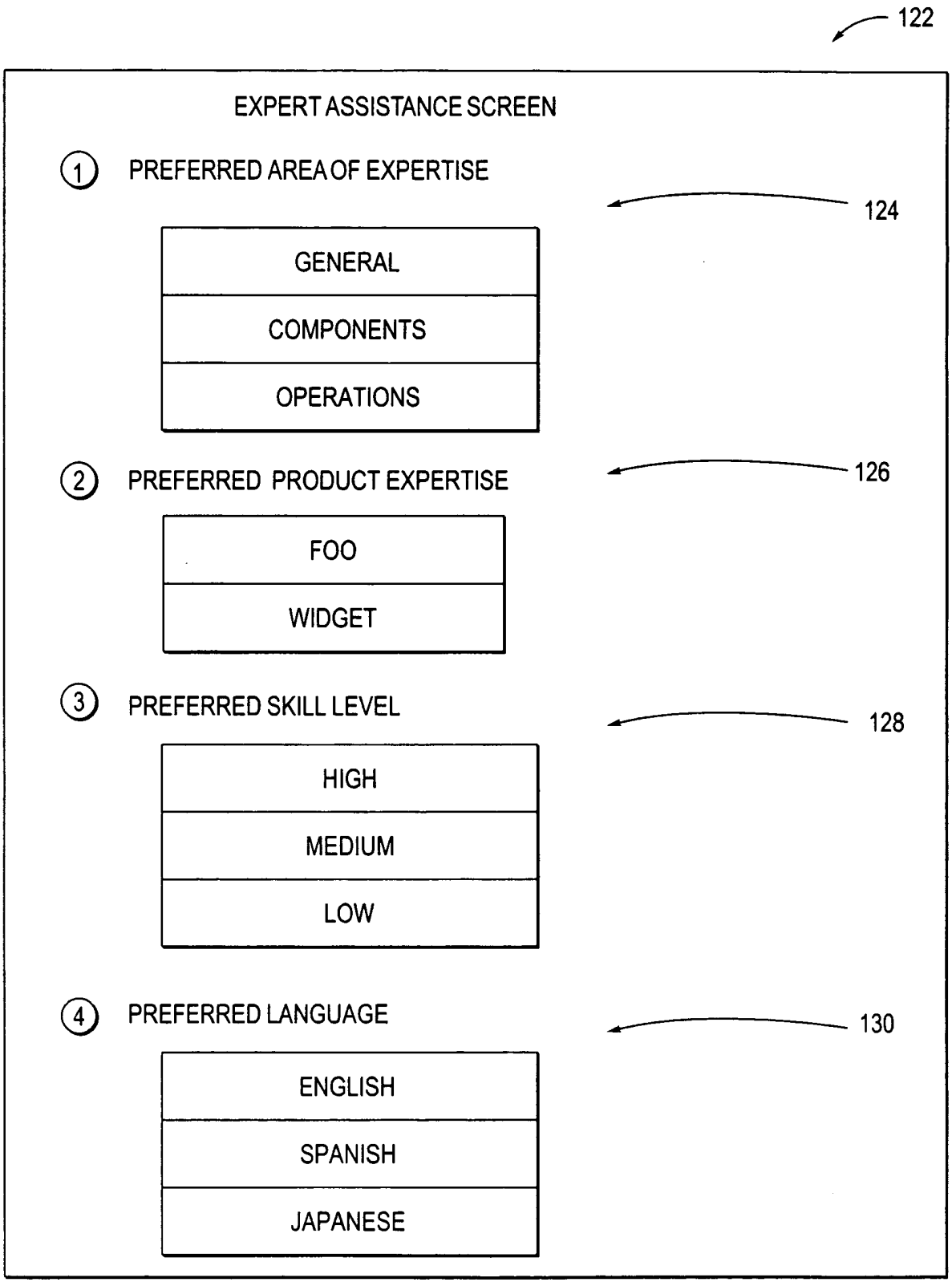

122
EXPERT ASSISTANCE SCREEN
1 PREFERRED AREA OF EXPERTISE
124
GENERAL
COMPONENTS
OPERATIONS
2 PREFERRED PRODUCT EXPERTISE
126
FOO
WIDGET
3 PREFERRED SKILL LEVEL
128
HIGH
MEDIUM
LOW
4 PREFERRED LANGUAGE
130
ENGLISH
SPANISH
JAPANESE

Fig. 12

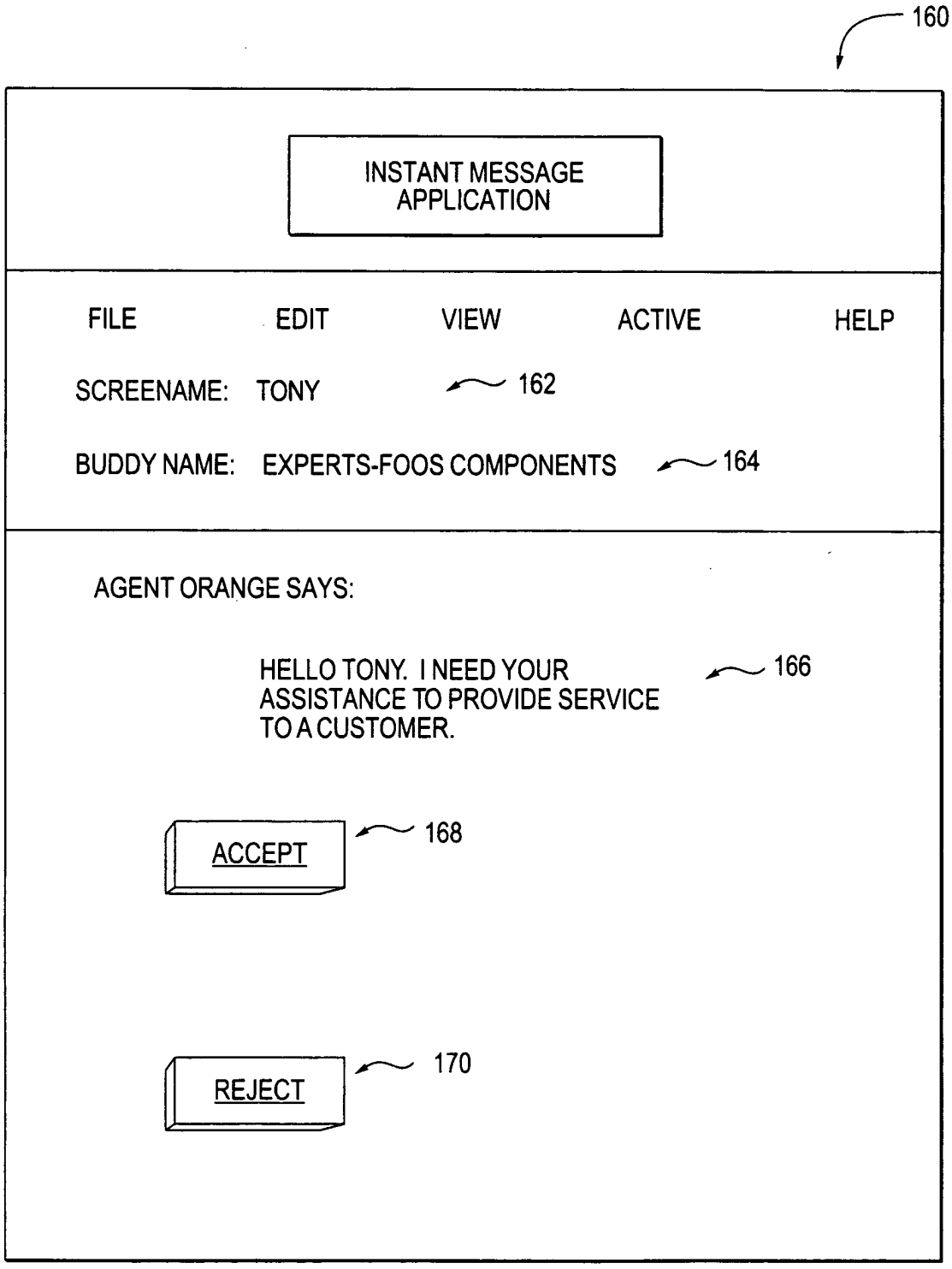

160
INSTANT MESSAGE APPLICATION
FILE
EDIT
VIEW
ACTIVE
HELP
SCREENAME: TONY
162
BUDDY NAME: EXPERTS-FOOS COMPONENTS
164
AGENT ORANGE SAYS:
HELLO TONY. I NEED YOUR ASSISTANCE TO PROVIDE SERVICE TO A CUSTOMER.
166
ACCEPT
168
REJECT
170

Fig. 13

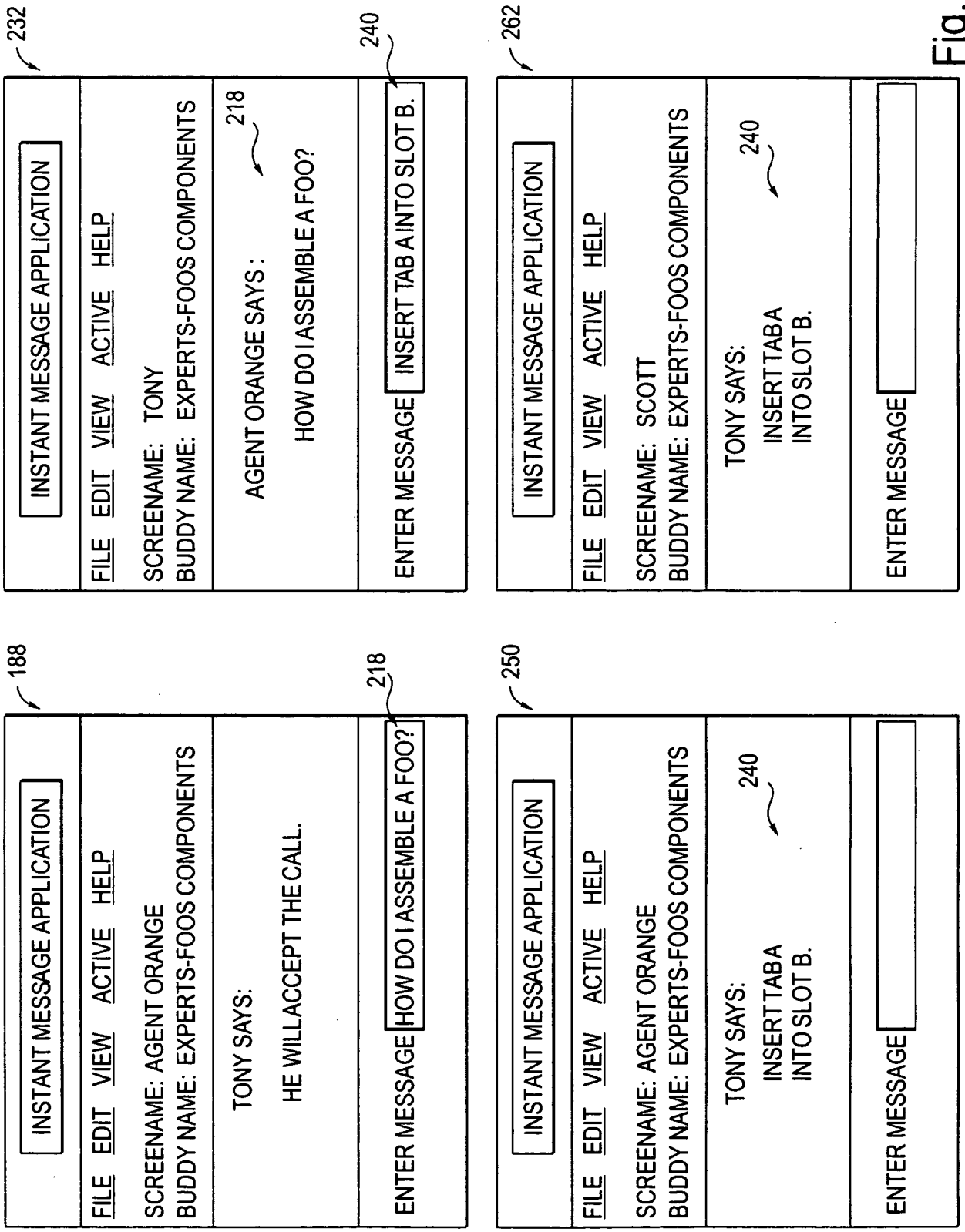

188
INSTANT MESSAGE APPLICATION
FILE EDIT VIEW ACTIVE HELP
SCREENAME: AGENT ORANGE
BUDDY NAME: EXPERTS-FOOS COMPONENTS
TONY SAYS:
HE WILLACCEPT THE CALL.
218
ENTER MESSAGE HOW DO I ASSEMBLE A FOO?
232
INSTANT MESSAGE APPLICATION
FILE EDIT VIEW ACTIVE HELP
SCREENAME: TONY
BUDDY NAME: EXPERTS-FOOS COMPONENTS
218
AGENT ORANGE SAYS:
HOW DO I ASSEMBLE A FOO?
240
ENTER MESSAGE INSERT TAB A INTO SLOT B.
250
INSTANT MESSAGE APPLICATION
FILE EDIT VIEW ACTIVE HELP
SCREENAME: AGENT ORANGE
BUDDY NAME: EXPERTS-FOOS COMPONENTS
TONY SAYS:
INSERT TABA
INTO SLOT B.
240
ENTER MESSAGE
262
INSTANT MESSAGE APPLICATION
FILE EDIT VIEW ACTIVE HELP
SCREENAME: SCOTT
BUDDY NAME: EXPERTS-FOOS COMPONENTS
TONY SAYS:
INSERT TABA
INTO SLOT B.
240
ENTER MESSAGE

Fig. 14

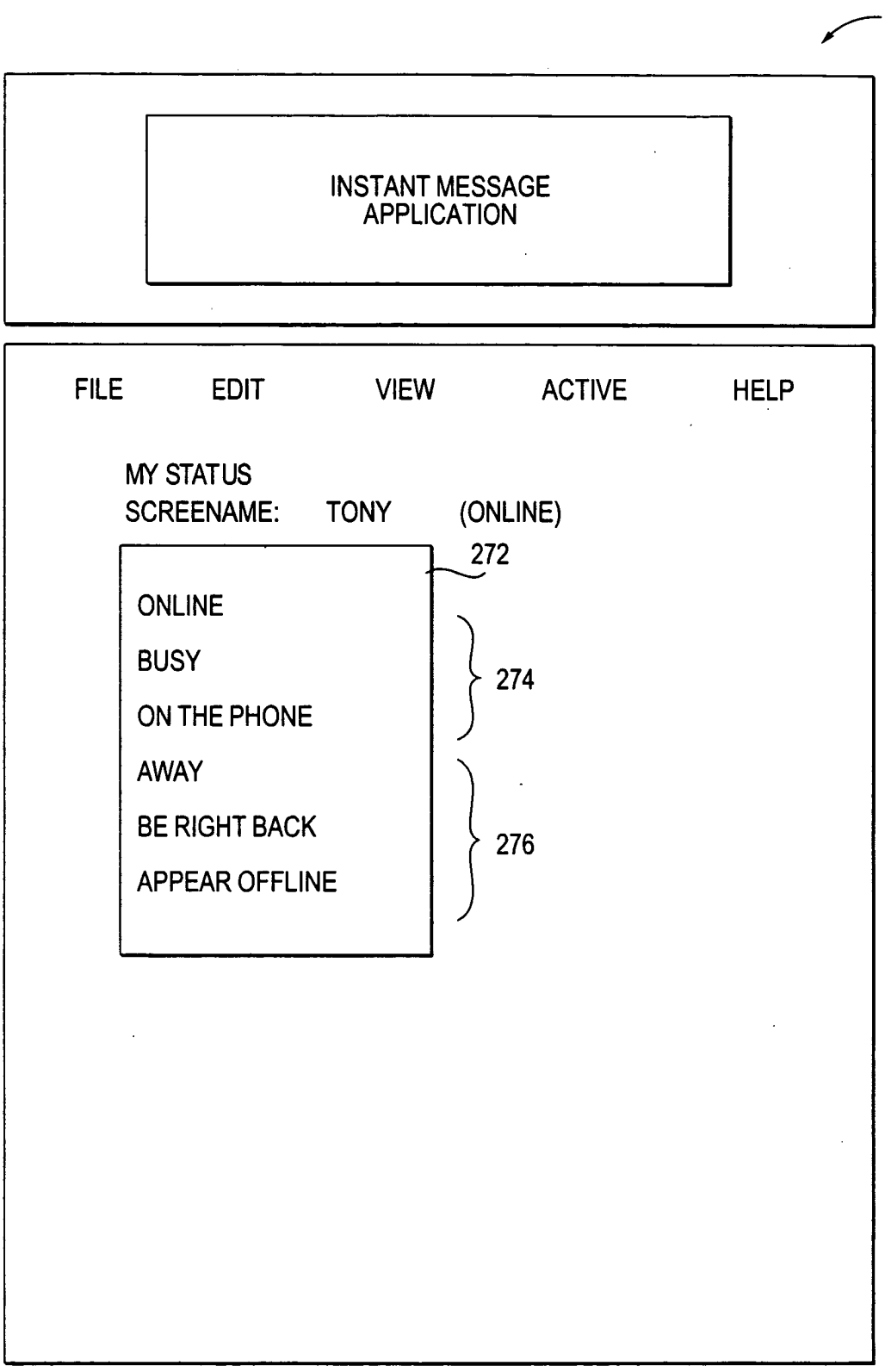

270
INSTANT MESSAGE APPLICATION
FILE
EDIT
VIEW
ACTIVE
HELP
MY STATUS
SCREENAME: TONY (ONLINE)
272
ONLINE
BUSY
ON THE PHONE
274
AWAY
BE RIGHT BACK
APPEAR OFFLINE
276

Fig. 15

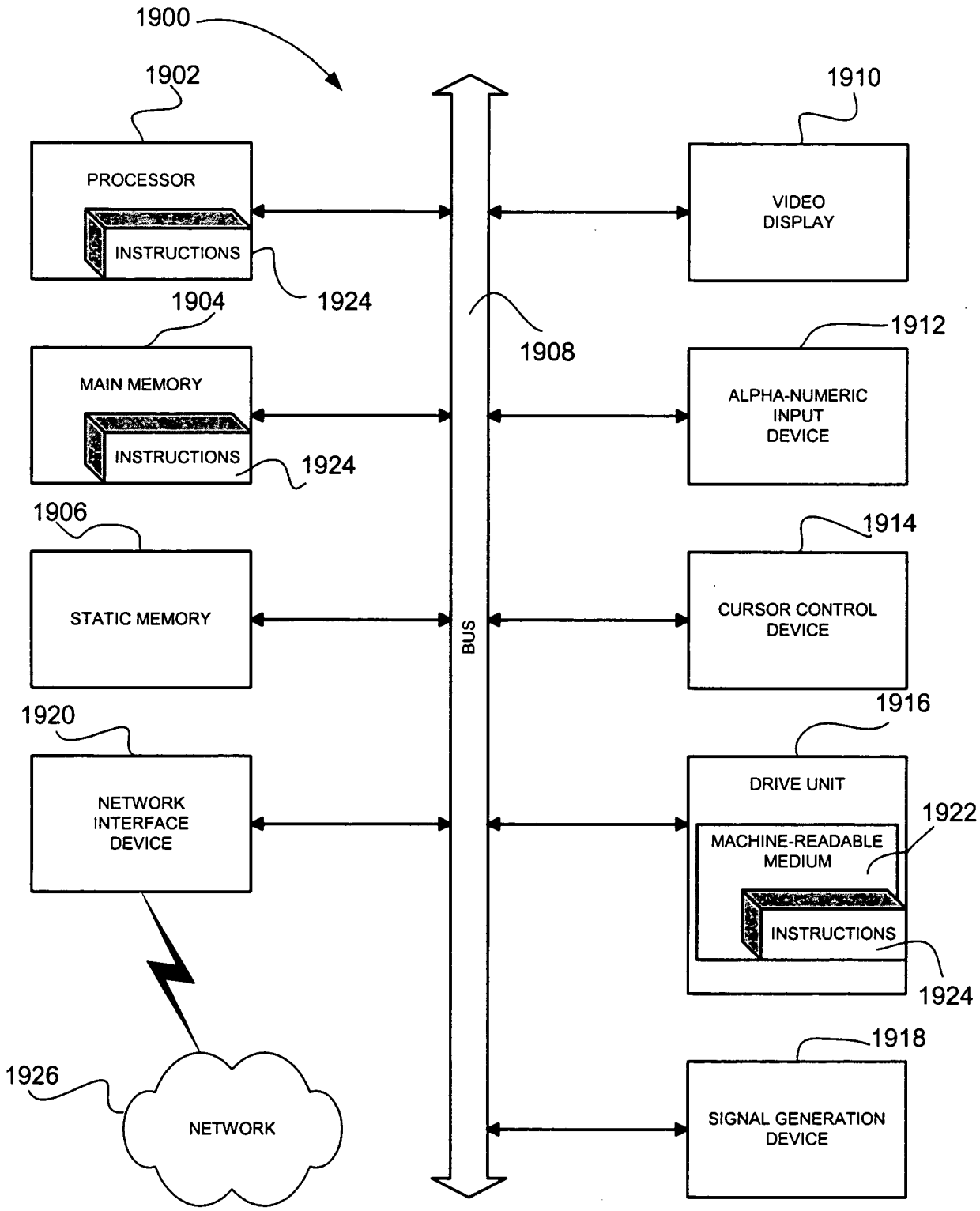

1900
1902
PROCESSOR
INSTRUCTIONS
1924
1904
MAIN MEMORY
INSTRUCTIONS
1924
1906
STATIC MEMORY
1920
NETWORK INTERFACE DEVICE
1926
NETWORK
BUS
1908
1910
VIDEO DISPLAY
1912
ALPHA-NUMERIC INPUT DEVICE
1914
CURSOR CONTROL DEVICE
1916
DRIVE UNIT
1922
MACHINE-READABLE MEDIUM
INSTRUCTIONS
1924
1918
SIGNAL GENERATION DEVICE

Fig.16